

```

                ↓      ↓      ↓
27      AVSPKTYKDADFYVAPTQQDVNY___DLVDDFGANGNDTSD 64
      |      |      |      |      |      |      |      |
28      DTSEISEVPTELRAAASSFYTPPGQNV RANKKNLVTDYGVNHNDQND 74
      ↓
65      DSNALQRATNAISRKENG G T L L I P N G T Y H F L G I Q M K S N V H I R V E S D V I I K 114
      || | | | | | | | | | | | | | | | | | | | |
75      DSSKLNLAIKDLS___DTGGILTL PKGKY Y LTKIRMR SNVHLEIEKGTIVTY 122
                ↓
115     PIWN GDGKNHRLFEVG___VNNIVRNFSFQGLGNGFLVDFKDSRDKNLAV 161
      ||      |||| |      | | | | | | | | | | | |
123     PIKGLTPAKNHRIFDFASKTEEKIENASIVGKGGKFIVDLRGNSSKNQIV 172
                ↓
162     FKLGDVRNYKISNFTTIDNKTIFASILVDVTERNGRLHWSRNGIIERIKQ 211
      | | | | | | | | | | | | | | | | | | | | | |
173     ADVGNVINFKISNFTTIKDEKTIFASILVSFTDKAGN_AWPHKGIIENIDQ 221
                ↓
212     NNALFGYGLIQTYGADNILFRNLHSEGGIALRMETDNL MKNYKQGGIRN 261
      || | | | | | | | | | | | | | | | | | | | |
222     ANAHTGYGLIQAYAADNILFNNLSCTGGVTLRLETDLAMKTAKKGGVRD 271
                ↓
262     IFADNIRCSKGLAAMFGPHEFMKNGDVQVINVSSVSCGSAVRSDSGFVEL 311
      || | | | | | | | | | | | | | | | | | | | |
272     IFATKIKNINGLTPVMFSPHEFMENGKVTIDDVTAIGCAYAVRVEHGFIEI 321
                ↓
312     FSPTDEVHTRQSWKQAVESKLGRCQAQTPYARGNGGTRWAARVT___QKD 358
      |      |      |      |      |      |      |      |
322     FDKGNRASA_DAFKNYIEGILGAGSVEVVYKRNGRT_WAARIANDFNEA 369

359     ACLDKAKLEYGIEPGSFGTVKVFDVTARF_GYNADLKQDQLDYFSTSNPM 407
      |      | | | | | | | | | | | | | | | |
370     AYNHSNPAVSGIKPGKFATSKVINVKATYKGTGAKLKQAFLSYLPCSER_ 418
                ↓
408     CKRVCLPTKEQWSKQGQIYIGPSLAAVID_TTPETSKYDYDVKTENVKRI 457
      | | | | | | | | | | | | | | | | | |
419     SK_VCRPGPDGFE_____YNGPSLGVTIDNTKRENSLGNYNVNVSTSSVQ 462

457     NFPVNSHKTIDINTESSRVQNY_YGMSECSSSRWER 491
      || |      ||      || | | |
463     GFPNNYVLNVKYNT___PKVCNQNLG_SITSCN 491

```

FIG.1

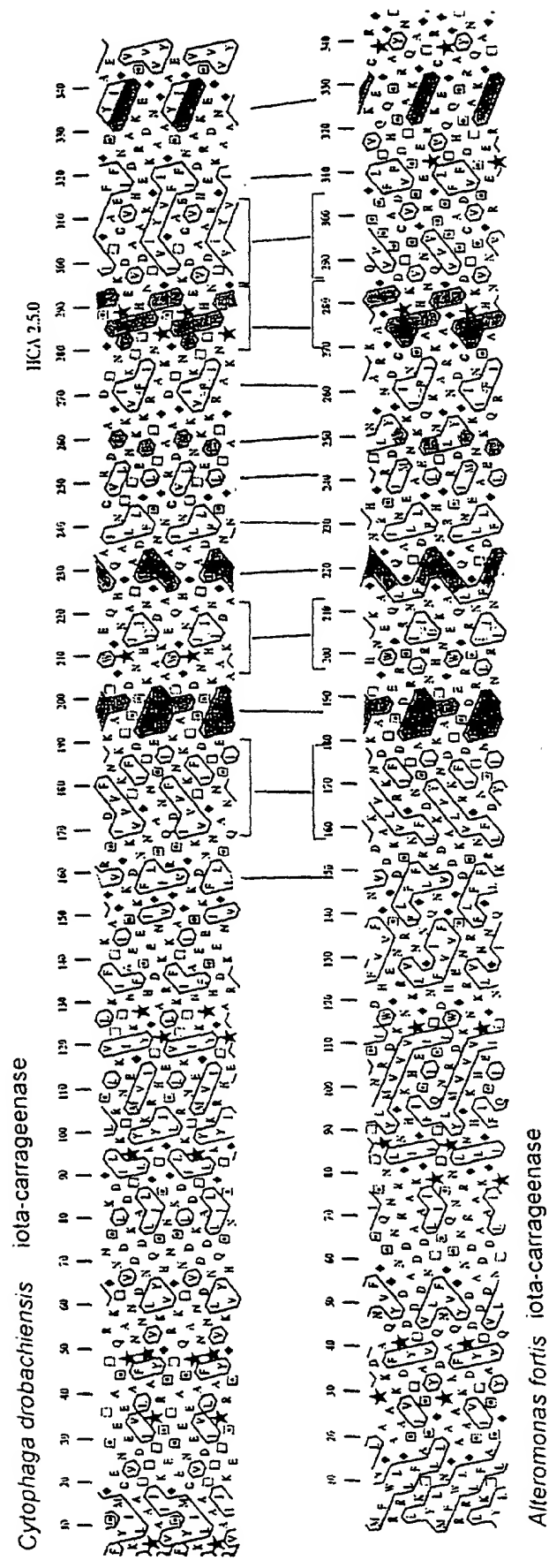


FIG.2



*Alleromonas carrageenovora* kappa-carrageenase

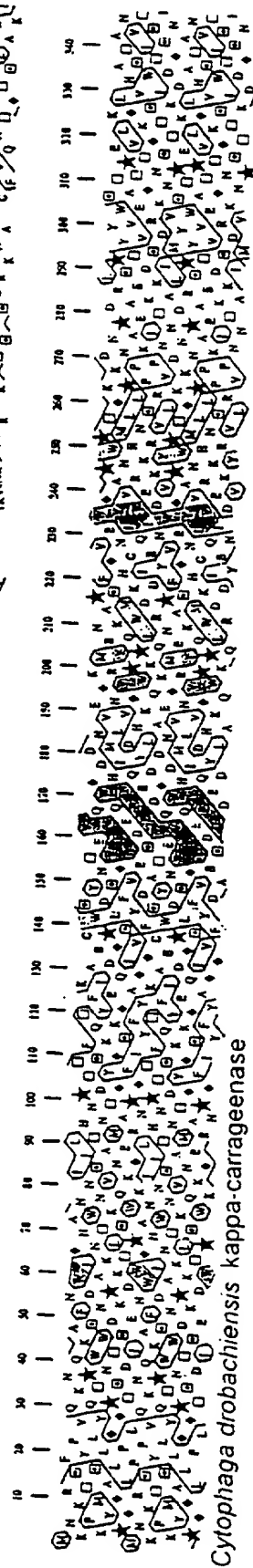
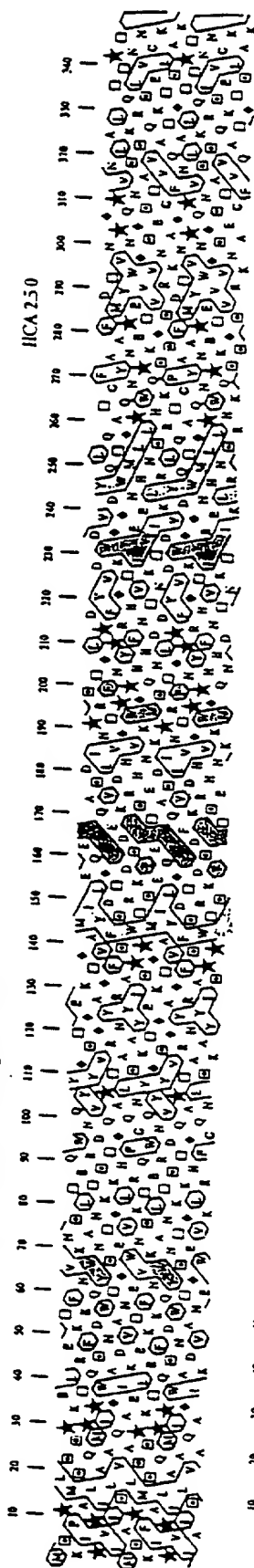


FIG. 4